

REMARKS

Claims 1 to 14 were pending when last examined. Applicant has amended claim 8 and added claim 15. Claims 1 to 15 are now pending.

Telephone Interview

Applicant thanks the Examiner for the telephone interview on July 25, 2007. In the interview, Applicant's attorney explained the claimed invention and presented arguments regarding claims 1 and 8. No formal agreement was reached.

§ 103 Rejections

Claims 1, 2, 4, and 13

The Examiner rejected claims 1, 2, 4, and 13 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,393,162 ("Higurashi") in view of U.S. Patent Application Publication No. 2002/0191865 ("Yamaguchi et al."). Addressing Applicant's previous argument regarding claim 1, the Examiner found that it "would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Higurashi's panoramic maker with Yamaguchi's rotating method so that images can be rotated in any desired manner to have the correct orientation (Yamaguchi [0087], lines 7 – 9)." May 3, 2007 Final Office Action, p. 10, ¶ 9. Applicant respectfully traverses.

Applicant again submits there is no motivation to modify Higurashi with Yamaguchi et al. in the manner of claim 1. Higurashi discloses a method for generating a panoramic image from a series of images. Higurashi is silent as to dividing images into portions, rotating a portion of an image, forming a stitched image from another portion of the image and a portion of another image, rotating the stitched image, saving the rotated portion and the stitched image as parts of a panoramic image, and rotating the panoramic image back to an original orientation of the images.

Yamaguchi et al. discloses a method for a copier to process an image in blocks before the entire image is scanned in order to rotate the image, to flip the image, to combine the image with another image, or to generate another image by repeating all or part of the image. While Yamaguchi et al. does disclose dividing an image into blocks, rotating the blocks, and saving the blocks in appropriate memory locations to form a new image, it does not disclose rotating the new image back

to the original orientation of the image. This is because there is simply no need to rotate the new image back to the original image orientation since the new image is in the desired orientation for the copier output.

Applicant notes that the invention of claim 1 was devised to efficiently use volatile memory to create a panoramic image. Specifically, the invention of claim 1 rotates portions of images that make up a panoramic image in order to sequentially save the panoramic image to nonvolatile memory along its smaller dimension (e.g., the height of the images) instead of its larger dimension (e.g., the sum of the width of the images). As the panoramic image is saved along its smaller dimension, a smaller amount of volatile memory is needed to buffer the panoramic image before it is saved to nonvolatile memory. In contrast, if the panoramic image is saved to nonvolatile memory along its longer dimension (e.g., the sum of the width of the images), a large amount of volatile memory would be necessary to buffer the entire panoramic image before it can be saved to nonvolatile memory. At the end of this process, the panoramic image is rotated back to the original orientation of the images so the panoramic image can be properly displayed along a camera motion direction of the images.

For all of the reasons above, claim 1 is patentable over Higurashi and Yamaguchi et al. since the reference do not disclose all the elements of the claim 1 and there is no motivation to modify the two references in the manner of claim 1.

Claims 2, 4, and 13 depend from amended claim 1 and are patentable for at least the same reasons as amended claim 1.

Claims 5 to 7

The Examiner rejected claims 5 to 7 under 35 U.S.C. § 103(a) as being unpatentable over Higurashi in view of Yamaguchi et al. and further in view of U.S. Patent No. 6,157,747 (“Szeliski et al.”).

Claims 5 to 7 depend from claim 1 and are patentable for at least the same reasons as claim 1.

Claim 8

The Examiner rejected claims 8 to 12 under 35 U.S.C. § 103(a) as being unpatentable over Higurashi in view of Yamaguchi et al. and further in view of U.S. Patent No. 6,385,349 (“Teo”). Addressing Applicant’s previous argument regarding claim 8, the Examiner found that Teo discloses

determining a minimum color difference path since the claim language is given its broadest reasonable interpretation and Teo discloses minimization of deviation between the color intensities of the two images.

In view of the above, Applicant has amended claim 8 to clarify how a minimum color difference path is determined. Amended claim 8 now recites determining a minimum color difference path by “determining a color difference map of the overlapping region; and determining a path that has a lowest sum of color differences of pixels from the color difference map,” which are not disclosed by Teo. Thus, amended claim 8 is now patentable over the cited references.

Claim 14

The Examiner rejected claim 14 under 35 U.S.C. § 103(a) as being unpatentable over Higurashi in view of Yamaguchi et al. and further in view of U.S. Patent No. 7,085,435 (“Takiguchi et al.”).

Claim 14 depends from claim 1 and is patentable for at least the same reasons as claim 1.

New Claim 15

New claim 15 depends from amended claim 8 and is patentable for at least the same reasons as amended claim 8.

Allowable Subject Matter

Applicant thanks the Examiner for allowing claim 3.

The Examiner indicated that claims 9 to 12 are allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant has not amended claims 9 to 12 to independent form because Applicant believes that their base claim 8 is patentable over the cited references.

Summary

In summary, claims 1 to 14 were pending in the above-identified application when last examined. Applicant has amended claim 8 and added claim 15. For the above reasons, Applicant respectfully requests the Examiner to withdraw the claim rejections and allow claims 1 to 15. Should the Examiner have any questions, please call the undersigned at (408) 382-0480.

I hereby certify that this correspondence is being transmitted prior to expiration of the set period of time by being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4).

/David C Hsia/
Signature

July 25, 2007
Date

Respectfully submitted,

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